

DETAILED ACTION

1. This Office Action is made in response to applicant's RESPONSE TO ELECTION REQUIREMENT AND AMENDMENT, filed on 07/09/2009.
2. Applicant's election of Species I as illustrated in figures 3, 4 and 7-13 in the reply filed on 07/09/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Applicant indicated claims 1-82 and 99-101 being readable in the elected species I. Examiner disagrees because claims 23, 47 and 75 recite a feature, "wherein the portion of the object that is displayed in the display device is adjusted in a manner related to the **translational movement of the display device in relation to a surface**", which is not readable in the elected species I, and claim 99 recites a feature, "detecting, by the accelerometer internal to the computer system, **movement of the hand-held computer system relative to the surface**", which is not readable in the elected species I.

Note that the disclosure, specifically the specification at page 12, lines 14-17 (corresponding to the non-elected species IV illustrated in Figs. 14-15) and at page 12, line 32 to page 13, line 1 (corresponding to the non-elected species V illustrated in Fig. 16), discloses a motion sensor capable of producing motion vector measurements in response to movement of the hand held computer in relation to a substantially planar surface.

Further, note that new claims 102-104 seem to be read in the elected species; however, **these claims are withdrawn by the applicant as being not readable in the elected species**

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(see the Response to Restriction Requirement, at page 17, last paragraph). Accordingly, these claims are withdrawn as indicated by the Applicant.

4. Claims 23-29, 47-50, 52-54, 75-81, 99 and 100 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species IV and V, there being no allowable generic or linking claim. Claims 102-104 are withdrawn from further consideration as indicated by the Applicant. Election was made **without** traverse in the reply filed on 07/09/2009. Claims 1-22, 30-46, 51, 55-74, 82 and 101 are considered as follows:

Specification

5. The amendment filed 4/8/2002 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the paragraph inserted after page 11, line 30 includes at least features, “planar motion” and “translational movement includes movement measured in other types of coordinate systems including, but are not limited to cylindrical or spherical”, which were not disclosed in the original disclosure.

Applicant is required to cancel the new matter in the reply to this Office Action.

6. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 34 recites the limitation "**the** orientation of the portion displayed" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Note that claim 34 should depend upon claim 33. See claims 5 and 57 which depend upon claims 4 and 56, respectively.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 4, 5, 33, 34, 56, and 57 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A "**rotational sensor**" or a "**gyroscope**" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In the instant application, the original disclosure, specifically Fig. 13 and the specification at page 12, lines 1-8, explicitly discloses a rotational sensor, e.g., a gyroscope, included in the computer 20, for tracking rotation of the computer in order to enable a 2-D display to be rotated in 3-D space to present various viewpoints of a 3-D database within the device (i.e., "redefining an orientation of the portion that is displayed via the display device" of these claims).

11. Claims 30-31 and 82 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. For example, a "**video camera**" or the like is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the

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disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In the instant application, the original disclosure does not explicitly disclose what element(s) of the computer device is used to monitor a real scene in real space and time and to capture an image of the real scene.

12. Claims 4, 5, 33, 56, and 57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claims 4, 5, 33, 56, and 57, these claims contain the limitation, “redefining an orientation of the portion that is displayed via the display device such that, **without moving the display device**, the portion displayed via the display device changes” in last 3 lines of claims 4, 33 and 56, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure, when filed, specifically Fig. 13 and the specification at page 12, lines 1-8, explicitly discloses that the portion displayed via the display device is oriented when the computer 20 is rotated, thereby causing the display device of the computer 20 also being rotated, i.e., the display device is moved. However, the original disclosure does not disclose how the display device is not moved when the computer is rotated. Accordingly, these claims contain the above underlined limitation, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim Rejections - 35 USC § 102

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

14. Claims 1-5, 14-18, 55-59 and 68-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Williams (US 6,956,564 B1).

As to claims 1, 14-16, 55, 68, Williams discloses a hand-held computer system (a hand-held computer; Fig. 1; col. 3, line 3) as a PDA (col. 1, lines 6-9) comprising:

a processor (a microcontroller 30; Fig. 3) ;

an accelerometer (31, 32; Fig. 3) internal to the hand-held computer system (Fig. 3; col. 4, lines 20-24);

a display device (a LCD 5; Fig. 1) coupled to the processor (30) (Fig. 3); and

a computer readable medium (ROM/EEPROM/memory 38; Fig. 16; col. 4, lines 15-20; col. 53-57) coupled to the processor, the computer readable medium having computer executable instructions (a program; col. 4, line 63 to col. 5, line 10) for:

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displaying a portion of an object on the display device (Figs. 1, 18, 19);
detecting, by the accelerometer (31, 32) internal to the computer system, translational movement of the hand-held computer system (Figs. 17-18; col. 6, lines 11-35); and
updating the portion of the object that is displayed on the display device in a manner correlated to the translational movement of the hand-held computer system detected by the accelerometer (Figs. 17-18; col. 6, lines 11-62).

Accordingly, all limitations of these claims are read in the Williams reference.

As to claims 2 and 58, Williams discloses computer executable instructions for updating a virtual magnification of the portion of the object that is displayed in a manner correlated to the translational movement of the display device (col. 7, lines 13-39).

As to claims 3 and 59, Williams discloses computer executable instructions for updating a virtual magnification of the portion of the object that is displayed in response to a command entered into the computer system by a user of the hand-held computer system (col. 7, lines 1-26).

As to claim 4 and 56, Williams discloses computer executable instructions for redefining an orientation of the portion displayed via the display device such that, without moving the display device, the portion of the object that is displayed via the display device changes (col. 2, lines 13-19; col. 6, lines 63-67).

As to claim 5 and 57, Williams discloses the orientation of the portion of the object that is displayed being redefined in response to a request by a user (col. 7, lines 1-3; col. 12, lines 42-55).

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As to claim 17 and 69, Williams discloses the PDA having handwriting recognition capability (col. 7, lines 40-48).

As to claim 18 and 70, Williams discloses the PDA having voice recognition capability (col. 7, lines 40-48).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 19, 20, 30, 31, 71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams as applied to claim 1 or 55 above.

As to claims 19, 20, 30, 31, 71 and 72, as discussed in the rejection to claim 1 or 55 above, Williams discloses all limitations of this claim except for the visual information generated by the computer system including multiple application windows, a first window of the multiple application windows corresponds to a first application executing upon the computer system, monitoring a real scene in real space and time and displaying within a first window of the multiple application windows the image of the real scene, of these claims.

However, Official Notice is taken that both the concept and the advantages of providing a visual information generated by the computer system including multiple application windows, a first window of the multiple application windows corresponding to a first application executing upon the computer system, monitoring a real scene in real space and time, and displaying within a first window of the multiple application windows the image of the real scene, to allow the

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viewer simultaneously to view multiple applications are well-known and expected in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide a visual information generated by the computer system including multiple application windows and a first window of the multiple application windows corresponding to a first application executing upon the computer system, in the computer system of Williams, because this would allow the user to view multiple application windows, simultaneously, as generally recognized by a person of ordinary skill in the art at the time of the invention was made.

17. Claims 6-13, 21, 22, 32-46, 51, 60-67, 73, 74 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams, and further in view of Applicant's Admitted Prior Art, hereinafter AAPA.

As to claims 6-13, 21, 22, 60-67, 73 and 74, Williams further teaches the portable computer storing alphanumeric or graphical data and a navigation application providing a virtual image including many pages (see Fig. 18) and allowing the user to view a desired page in response to the movement of the display device (see col. 6, lines 11-35). Williams does not explicitly disclose the virtual image being a virtual map. Accordingly, Williams discloses all limitations of these claims except for a physical map application and the navigation capability of the physical map, as claimed.

However, AAPA discloses that the prior art applications include a map viewer to horizontally and vertically scroll two-dimensional objects, including maps that are bigger than the viewing screen, pointing to and moving a hand icon with a pointer allows viewing, and the ability to zoom in or out controls the resolution of detail and the amount of information visible

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upon the display device (see the specification at page 3, line 4 to page 4, line 17). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide the physical map application in the computer system of Williams, in view of the teaching in AAPA, because this would provide a physical map application to a user in accordance with a particular application.

As to claim 32, since all limitations of these claims are recited in claims 6 and 15, these claims are therefore rejected for the same reason set forth in claims 6 and 15.

As to claim 33, further see the rejection to claim 4 above.

As to claim 34, further see the rejection to claim 5 above.

As to claim 35, further see the rejection to claim 2 above.

As to claim 36, further see the rejection to claim 3 above.

As to claim 37, further see the rejection to claim 6 above.

As to claim 38, further see the rejection to claim 7 above.

As to claim 39, further see the rejection to claim 8 above.

As to claim 40, further see the rejection to claim 9 above.

As to claim 41, further see the rejection to claim 10 above.

As to claim 42, see the rejection to claim 11 above.

As to claim 43, further see the rejection to claim 12 above.

As to claim 44, further see the rejection to claim 13 above.

As to claim 45, further see the rejection to claim 16 above.

As to claim 46, further see the rejection to claim 18 above.

As to claim 51, further see the rejection to claim 17 above.

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As to claim 82, further see the rejection to claim 30 above.

18. Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams as applied to claim 55, and further in view of Zwern (US 6,127,990).

As to claim 101, William further discloses a tilt sensor to determine rotational movement of the display device and computer executable instructions for varying the certain portion of the object that is displayed on the display device in a manner based on the rotational movement of the display device detected by the tilt sensor (col. 6, line 50 to col. 6, line 35). William further teaches the tilt sensor includes position sensor and Global positioning sensor (see col. 12, lines 25-29). William does not explicitly disclose the tilt sensor including a gyroscope, as claimed.

However, Zwern discloses that the benefit of using a gyroscope as a tilt sensor is provide a simple implementation (or design) because the gyroscope outputs differential data representing an angular velocity, the data is digitized using a simple ADC IC, and then used directly for scrolling the imagery (see col. 11, lines 20-36). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize the gyroscope as a tilt sensor in the computer system of Williams, in view of the teaching in the Zwern reference, because this would require a simple sensing implementation, as taught by the Zwern reference (see col. 11, lines 33-36).

19. Claims 1, 4, 5, 14-16, 19, 20, 30, 31, 55-57, 68, 71, 72 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motosyuku et al. (US 5,602,566), hereinafter Motosyuku, and further in view of Zwern (US 6,127,990).

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As to claims 1, 14-16, 55, 68, Motosyuku discloses a hand-held computer system (a processor of the hand-held type; Fig. 3; col. 1, lines 8-12) comprising:

- a processor (a processing unit 101; Fig. 1);
- a tilt sensor (104) internal to the hand-held computer system (Fig. 1);
- a display device (a display unit 106; Fig. 1) coupled to the processor (101) (Fig. 1); and
- a computer readable medium (a storage unit 103; Fig. 1) coupled to the processor (101), the computer readable medium having computer executable instructions (programs; col. 3, lines 57-61) for:

- displaying a portion of an object on the display device (Fig. 2 disclosing a portion of one frame of display data (202) being displayed on the display screen (203) of the display device; see col. 3, lines 17-25);

- detecting, by the tilt sensor (104) internal to the computer system, translational movement of the hand-held device (col. 3, lines 30-32 disclosing a tilt sensor 304 detecting the tilt angle of the computer system, i.e., detecting the movement of the hand-held system; Figs. 4 and 5 disclosing the rotational tilt movement corresponding to the “claimed” translational movement because Motosyuku’s tilt constitutes actual space and a distance moved by the front or rear of Motosyuku’s device along a tilt angle); and

- updating the portion of the object that is displayed on the display device in a manner correlated to the translational movement of the hand-held computer system detected by the tilt sensor (Figs. 4-5; col. 3, lines 45-56).

Motosyuku does not explicitly teach the tilt sensor being an accelerometer.

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Accordingly, Motosyuku discloses all limitations of these claims except that Motosyuku discloses the tilt sensor instead of an accelerometer, as claimed.

However, Zwern explicitly discloses that both the concept and the advantages of utilizing an accelerometer in the device for tracking the movement of the device to provide extremely rapid response and high accuracy within a single package are well-known and expected in the art (col. 4, lines 38-51). Further, Zwern also uses accelerometers in the head-mounted-display (HMD) device (26), for tracking the movement of the HMD device (Fig. 3; col. 11, lines 45-49) in the left, right, up, and down directions to visually scan across the page in corresponding direction, i.e., tracking the translational movement of the display device (see Fig. 3; col. 7, lines 3-6). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilizing the accelerometer in the hand-held device of Motosyuku, in view of the teaching in the Zwern reference, because this provide extremely rapid response and high accuracy within a single package, as taught by the Zwern (col. 4, lines 38-51).

As to claims 4 and 56, Motosyuku discloses computer executable instructions for redefining an orientation of the portion displayed via the display device such that, without moving the display device, the portion of the object that is displayed via the display device changes (Figs. 4-5; col. 3, lines 45-56).

As to claims 5 and 57, Motosyuku discloses the orientation of the portion of the object that is displayed being redefined in response to a request by a user (col. 1, lines 3-8; col. 3, lines 62-64).

As to claims 19, 20, 30, 31, 71 and 72, as discussed in the rejection to claim 1 or 55 above, Motosyuku in view of Zwern discloses all limitations of this claim except for the visual

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information generated by the computer system including multiple application windows, a first window of the multiple application windows corresponds to a first application executing upon the computer system, monitoring a real scene in real space and time and displaying within a first window of the multiple application windows the image of the real scene, of these claims.

However, Official Notice is taken that both the concept and the advantages of providing a visual information generated by the computer system including multiple application windows, a first window of the multiple application windows corresponding to a first application executing upon the computer system, monitoring a real scene in real space and time, and displaying within a first window of the multiple application windows the image of the real scene, to allow the viewer simultaneously to view multiple applications are well-known and expected in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide a visual information generated by the computer system including multiple application windows and a first window of the multiple application windows corresponding to a first application executing upon the computer system, in the device of Motosyuku, because this would allow the user to view multiple application windows, simultaneously, as generally recognized by a person of ordinary skill in the art at the time of the invention was made.

As to claim 101, Zwern discloses that the benefit of using a gyroscope as a tilt sensor is provide a simple implementation (or design) because the gyroscope outputs differential data representing an angular velocity, the data is digitized using a simple ADC IC, and then used directly for scrolling the imagery (see col. 11, lines 20-36). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize the

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gyroscope in the hand-held device of Motosyuku, in view of the teaching in the Zwern reference, because this would require a simple sensing implementation, as taught by the Zwern reference (see col. 11, lines 33-36).

20. Claims 2, 3, 6-13, 21, 22, 32-45, 58-67, 73, 74 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motosyuku in view of Zwern, and further in view of Applicant's Admitted Prior Art, hereinafter AAPA.

As to claims 2, 3, 58 and 59, as discussed in the rejections above, Motosyuku in view of Zwern discloses all limitation of these claims except for "a virtual magnification of the portion of the object" of these claims.

However, AAPA discloses that the prior art applications include the ability to zoom in or out controls the resolution of detail and the amount of information visible upon the display device, i.e., a virtual magnification of the object (see the specification at page 3, lines 28-31). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide the zoom in and out controls in the device of Motosyuku, in view of the teaching in AAPA, because this would allow the user to control the amount of information visible upon the display device, as taught by AAPA (see the specification at page 3, lines 28-31).

As to claims 6-13, 21, 22, 60-67, 73 and 74, Motosyuku further teaches the portable computer storing an electronic publication or a document and a navigation application allowing the user to view a desired content of the electronic publication or a document page in response to the movement of the display device (see col. 8, lines 3-14). Motosyuku does not explicitly disclose the virtual image being a virtual map. Accordingly, Williams discloses all limitations of

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these claims except for a physical map application and the navigation capability of the physical map, as claimed.

However, AAPA discloses that the prior art applications include a map viewer to horizontally and vertically scroll two-dimensional objects, including maps that are bigger than the viewing screen, pointing to and moving a hand icon with a pointer allows viewing, and the ability to zoom in or out controls the resolution of detail and the amount of information visible upon the display device (see the specification at page 3, line 4 to page 4, line 17). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide the physical map application and to zoom in or out controls in the device of Motosyuku, in view of the teaching in AAPA, because this would provide a physical map application to a user and allow the user to control the amount of information visible upon the display device, in accordance with a particular application.

As to claim 32, since all limitations of these claims are recited in claims 6 and 15, these claims are therefore rejected for the same reason set forth in claims 6 and 15.

As to claim 33, further see the rejection to claim 4 above.

As to claim 34, further see the rejection to claim 5 above.

As to claim 35, further see the rejection to claim 2 above.

As to claim 36, further see the rejection to claim 3 above.

As to claim 37, further see the rejection to claim 6 above.

As to claim 38, further see the rejection to claim 7 above.

As to claim 39, further see the rejection to claim 8 above.

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As to claim 40, further see the rejection to claim 9 above.

As to claim 41, further see the rejection to claim 10 above.

As to claim 42, see the rejection to claim 11 above.

As to claim 43, further see the rejection to claim 12 above.

As to claim 44, further see the rejection to claim 13 above.

As to claim 45, further see the rejection to claim 16 above.

As to claim 82, further see the rejection to claim 30 above.

21. Claims 17, 18, 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motosyuku in view of Zwern, and further in view of Detlef (US 6,178,403 B1).

As to claims 17, 18, 69 and 70, as discussed in the rejections above, Motosyuku in view of Zwern discloses all limitation of these claims except for a handwriting recognition capability and a voice recognition capability of these claims.

However, Detlef teaches a PDA having handwriting recognition capability and voice recognition capability for user entering data to the computer (see col. 1 lines 24-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include handwriting recognition capability and voice recognition capability in the device of Motosyuku, in view of the teaching in the Detlef reference because this would enable the user to enter data to the computer without a keyboard, as taught by the Detlef reference.

22. Claims 46 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motosyuku in view of Zwern and AAPA, and further in view of Detlef (US 6,178,403 B1).

See the rejection to claims 17, 18, 69 and 70 above.

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Response to Arguments

23. Applicant's arguments, with respect to the newly amended claims 1, 32, 55 and 99 (see the amendment filed 3/16/2009, pages 19-25), have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675.

The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jimmy H Nguyen/

Primary Examiner, Art Unit 2629